

STATEMENT OF
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UNMANNED AERIAL VEHICLES (UAVS) AND
THE NATIONAL AIRSPACE SYSTEM

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Today's hearing, like the hearing on commercial space transportation just over one year ago, launches a new era in commercial transportation oversight.

We have just come to the end of 100-years of manned flight and are now entering a century where unmanned aircraft will be used in ways that defy even today's imagination. It is not outside the realm of possibility that sometime in the future we will see pilots located at remote consoles as they fly cargo and passengers through an aviation system that has yet to be defined.

From the early days of flight, to the development of jet engines, to the introduction of helicopters and now unmanned aerial vehicles (UAVs) and unmanned aerial systems (UASs), progress continues and the safe integration of new technologies in the National Airspace System (NAS) must be assured.

While historically UASs have been used primarily by the Department of Defense (DOD) in military settings outside of U.S. borders, there is growing demand for both government and commercial operations of unmanned aircraft in the integrated NAS.

Federal agencies, such as the Customs and Border Protection Service (CBP), the Drug Enforcement Agency, the Federal Bureau of Investigation, the Transportation Security Administration, the Federal Emergency Management Agency, and State and Local law enforcement agencies are interested in utilizing UASs in the NAS. Additionally, UAVs are also an emerging segment of the commercial aviation industry.

These advancements in aviation technology demand an ever changing and evolving aviation system.

Therefore, today the Committee will learn about the development and use of unmanned aerial systems, the Federal Aviation Administration's (FAA) role in safety oversight, and the safe introduction of UASs into the integrated National Airspace System (NAS).

We all understand that the FAA has sole authority over the safe and efficient use of the NAS and is responsible for overseeing the safety of the civil airspace, including operations by the military, government, private pilots and commercial entities.

In considering the operation of unmanned aircraft in the integrated NAS, the FAA has identified two major safety concerns that must be addressed.

First, the need for proven UAS command and control redundancies should there be a disruption in communication or should the operator lose contact with the vehicle. Second, the need for reliable “detect and avoid” capability so that unmanned aerial systems can sense and avoid other aircraft.

The FAA has stated that unmanned aircraft will need to achieve the same level of safety as manned aircraft. Such a level of safety requires further technological advancements.

Until this level of safety is achieved, the FAA has worked with DOD, CBP and other Government agencies to allow limited use of UASs in the NAS. The FAA has issued Certificates of Authority (COA) and created Temporary Flight Restrictions (TFRs) to allow “public” or “Governmental” operations of UASs in the NAS. The FAA has also issued Experimental Certificates to allow limited commercial operations in the NAS.

But, these processes, dealt with on a case-by-case basis, take time and place additional demands on limited FAA resources. The number of requests to operate unmanned aircraft in the NAS is growing, particularly for operations in support of Homeland and National Security.

While the FAA has worked hard to expedite the Certificates of Authority (COA) review process, ultimately, a longer term solution is required.

Therefore, the FAA has asked RTCA, Inc. (a private, not-for-profit corporation that develops consensus-based recommendations for the FAA on technical issues) to help develop UAS standards.

RTCA Special Committee 203 will answer two key questions: How will UASs handle command and control, and how will they detect and avoid other aircraft? Both of these questions are dependent upon the development of technology and operational procedures.

Certainly, supporting this emerging industry is in the best interest of the United States -- especially in light of growing Homeland and National Security demands and increasing international competition.

At the same time, ensuring that the FAA fulfills its oversight responsibilities with regard to safety is also a priority.

Like commercial space transportation, the integration of unmanned aerial systems will create new challenges to the safe and efficient use of the NAS and will require the FAA to address a new use of the NAS.